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On September 23, 2005

TOWNSEND and TOWNSEND and CREW LLP

By: Janet L. Newmaker
Janet L. Newmaker

PATENT

Attorney Docket No.: 20174C-002510US

Client Reference Nos.: CIT 3368 and
C125.210.US



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Hou-Pu Chou et al.

Application No.: 09/970,122

Filed: October 2, 2001

For: Microfluidic Devices And
Methods Of Use

Customer No.: 20350

Confirmation No.: 2108

Examiner: Arun S. Phasge

Art Unit: 1753

**SUPPLEMENTAL INFORMATION
DISCLOSURE STATEMENT UNDER
37 CFR §§ 1.97 AND 1.98**

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Commissioner for Patents
P.O. Box 1450
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Sir:

The references cited on attached form PTO/SB/08A and PTO/SB/08B are being called to the attention of the Examiner. Copies of the non-US references (in compliance with the requirements of 1287 OG 163) are enclosed.

It is respectfully requested that the cited references be expressly considered during the prosecution of this application, and the references be made of record therein and appear among the "references cited" on any patent to issue therefrom.


As provided for by 37 CFR 1.97(g) and (h), no inference should be made that the information and references cited are prior art merely because they are in this statement and no representation is being made that a search has been conducted or that this statement encompasses all the possible relevant information.

This IDS is being filed before the mailing date of the final Office Action or Notice of Allowance.

Please charge the IDS fee of \$180 to Deposit Account No. 20-1430. Please deduct any additional fees from, or credit any overpayment to, the above-noted Deposit Account. A duplicate copy of this Statement is enclosed for that purpose.

Respectfully submitted,

Date: September 23, 2005


Patrick M. Boucher
Reg. No. 44,037

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PMB/jln
60583772 v1



PTO/SB/21 (09-04)

**TRANSMITTAL
FORM**

(to be used for all correspondence after initial filing)

Total Number of Pages in This Submission

Application Number	09/970,122
Filing Date	October 2, 2001
First Named Inventor	Hou-Pu Chou
Art Unit	1753
Examiner Name	Arun S. Phasge
Attorney Docket Number	20174C-002510US

ENCLOSURES (Check all that apply)

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| <input type="checkbox"/> Fee Transmittal Form
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136 references
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SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	Townsend and Townsend and Crew LLP		
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Printed name	Patrick M. Boucher		
Date	September 23, 2005	Reg. No.	44,037

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PTO/SB/08A (08-03)

Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Sheet 1 of 11

Complete if Known

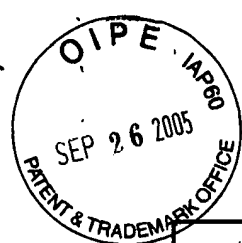
Application Number	09/970,122
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Art Unit	1753
Examiner Name	Arun S. Phasge
Attorney Docket Number	20174C-002510US

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number Kind Code ² (if known)			
	A1	US-3,570,515	03-16-1971	Kinner	
	A2	US-3,747,628	07-24-1973	Holster et al.	
	A3	US-4,046,159	09-06-1977	Pegourie	
	A4	US-4,119,368	10-10-1978	Yamakazi	
	A5	US-4,153,855	05-08-1979	Feingold	
	A6	US-4,245,673	01-20-1981	Bouteille et al.	
	A7	US-4,434,704	03-06-1984	Surjaatmadja	
	A8	US-4,898,582	02-06-1990	Faste	
	A9	US-4,992,312	02-12-1991	Frisch	
	A10	US-5,085,562	02-04-1992	Van Lintel	
	A11	US-5,088,515	02-18-1992	Kamen	
	A12	US-5,096,388	03-17-1992	Weinberg	
	A13	US-5,126,115	06-30-1992	Fujita et al.	
	A14	US-5,164,558	11-17-1992	Huff et al.	
	A15	US-5,171,132	12-15-1992	Miyazaki	
	A16	US-5,224,843	07-06-1993	Van Lintel	
	A17	US-5,259,737	11-09-1993	Kamisuki et al.	
	A18	US-5,265,327	11-30-1993	Faris et al.	
	A19	US-5,290,240	03-01-1994	Horres, Jr.	
	A20	US-5,336,062	08-09-1994	Richter	
	A21	US-5,346,372	09-13-1994	Naruse et al.	
	A22	US-5,375,979	12-27-1994	Trah	
	A23	US-5,376,252	12-27-1994	Ekstrom	
	A24	US-5,400,741	03-28-1995	DeTitta et al.	
	A25	US-5,423,287	06-13-1995	Usami et al.	
	A26	US-5,529,465	06-25-1996	Zengerle et al.	
	A27	US-5,593,130	01-14-1997	Hansson et al.	
	A28	US-5,642,015	06-24-1997	Whitehead et al.	

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Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet **2** of **11**

Complete if Known

Application Number	09/970,122
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		Number Kind Code ² (if known)			
	A29	US-5,659,171	08-19-1997	Young et al.	
	A30	US-5,660,370	08-26-1997	Webster	
	A31	US-5,681,024	10-28-1997	Lisec et al.	
	A32	US-5,705,018	01-06-1998	Hartley	
	A33	US-5,759,014	06-02-1998	Van Lintel	
	A34	US-5,775,371	07-07-1998	Pan et al.	
	A35	US-5,788,468	08-04-1998	Dewa et al.	
	A36	US-5,836,750	11-17-1998	Cabuz	
	A37	US-5,842,787	12-01-1998	Kopf-Sill et al.	
	A38	US-5,875,817	03-02-1999	Carter	
	A39	US-5,876,187	03-02-1999	Afromowitz	
	A40	US-5,932,799	08-03-1999	Moles	
	A41	US-5,942,443	08-24-1999	Parce et al.	
	A42	US-6,007,309	12-28-1999	Hartley	
	A43	US-6,043,080	03-28-2000	Lipshutz et al.	
	A44	US-6,123,769	09-26-2000	Sanjoh	
	A45	US-6,155,282	12-05-2000	Zachary et al.	
	A46	US-6,174,365 B1	01-16-2001	Sanjoh	
	A47	US-6,296,673 B1	10-02-2001	Santarsiero et al.	
	A48	US-2001/0027745 A1	10-11-2001	Weigl et al.	
	A49	US-6,345,502 B1	02-12-2002	Tai et al.	
	A50	US-6,409,832 B2	06-25-2002	Weigl et al.	
	A51	US-6,767,706 B2	07-27-2004	Quake et al.	

Examiner
Signature

Date
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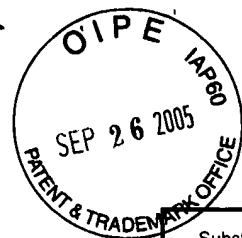
PTO/SB/08A (08-03)

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Complete if Known	
		Application Number	09/970,122
		Filing Date	October 2, 2001
		First Named Inventor	Hou-Pu Chou
		Art Unit	1753
		Examiner Name	Arun S. Phasge
Sheet 3	of 11	Attorney Docket Number	20174C-002510US

FOREIGN PATENT DOCUMENTS								
Examiner Initials*	Cite No. ¹	Foreign Patent Document			Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Country Code ³	Number ⁴	Kind Code ⁵ (if known)				
	B1	EP	0 592 094	A2	04-13-1994	International Business Machines Corporation		<input type="checkbox"/>
	B2	EP	0 703 364	A1	03-27-1996	Fraunhofer-Gesellschaft Zur Förderung Der Angewandten Forschung E.V.		<input type="checkbox"/>
	B3	EP	0 706 004	A2	04-10-1996	Bayer Corporation		<input type="checkbox"/>
	B4	EP	0 779 436	A2	06-18-1997	Frank T. Hartley		<input type="checkbox"/>
	B5	EP	0 829.360	A2	03-18-1998	Xerox Corporation		<input type="checkbox"/>
	B6	EP	0 845 603	A1	06-03-1998	Xerox Corporation		<input type="checkbox"/>
	B7	EP	0 999 055	A2	05-10-2000	Samsung Electronics Co., Ltd.		<input type="checkbox"/>
	B8	GB	2 155 152	A	09-18-1985	Allied Corporation		<input type="checkbox"/>
	B9	GB	2 308 460	A	06-25-1997	Daewoo Electronics Co., Ltd.		<input type="checkbox"/>
	B10	WO	98/07069	A1	02-19-1998	The Regents Of The University Of Michigan		<input type="checkbox"/>
	B11	WO	99/00655	A2	01-07-1999	Immunetics		<input type="checkbox"/>
	B12	WO	99/04361	A1	01-28-1999	Diversified Scientific, Inc.		<input type="checkbox"/>
	B13	WO	99/17093	A1	04-08-1999	The Regents Of The University Of Michigan		<input type="checkbox"/>
	B14	WO	99/52633	A1	10-21-1999	Lumenal Technologies, L.P.		<input type="checkbox"/>
	B15	WO	00/00678	A1	01-06-2000	University Of Washington		<input type="checkbox"/>
	B16	WO	00/43748	A1	07-27-2000	YSI Incorporated		<input type="checkbox"/>
	B17	WO	00/60345	A1	10-12-2000	University Of Alabama At Birmingham Research Foundation		<input type="checkbox"/>
	B18	WO	01/09595	A2	02-08-2001	Emerald Biostructures, Inc.		<input type="checkbox"/>
	B19	WO	01/09595	A3	02-08-2001	Emerald Biostructures, Inc.		<input type="checkbox"/>

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PTO/SB/08B (08-03)

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Application Number	09/970,122
		Filing Date	October 2, 2001
		First Named Inventor	Hou-Pu Chou
		Art Unit	1753
		Examiner Name	Arun S. Phasge
		Attorney Docket Number	20174C-002510US
Sheet	4	of	11

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	C1	"Biochips," Nature Biotechnology, Vol. 18, Supplement 2000, pp. IT43-IT44, 2000	
	C2	"Chapter 9: Microfluidic Devices," Micromachined Transducers Sourcebook, pp. 779-882, 1998	
	C3	"Last Chance For Micromachines," The Economist Technology Quarterly, printed from website http://www.economist.com/science/displayStory.cfm?Story_ID=442930 on 1/25/2001, 8 pages, 12/7/2000	
	C4	AHN, CHONG H. et al., "Fluid Micropumps Based On Rotary Magnetic Actuators," Proceedings of 1995 IEEE Micro Electro Mechanical Systems Workshop (MEMS '95), Amsterdam, Netherlands, pp. 408-412, 1/29-2/2/1995	
	C5	ANDERSON, ROLFE C. et al., "Microfluidic Biochemical Analysis System," Transducers '97, 1997 International Conference on Solid-State Sensors and Actuators, Chicago, Illinois, pp. 477-480, 6/16-19/1997	
	C6	ANGELL, JAMES B. et al., "Silicon Micromechanical Devices," Scientific American, pp. cover, 44-55, 4/1983	
	C7	ARMANI, DENIZ et al., "Re-Configurable Fluid Circuits By PDMS Elastomer Micromachining," IEEE Int. Conf. Micro Electro Mech. Syst. Tech. Digest, Vol. 12, pp. 222-227, 1999	
	C8	BALLANTYNE, J. P. et al., "Selective Area Metallization By Electron-Beam Controlled Direct Metallic Deposition," J. Vac. Sci. Technol., Vol. 10, No. 6, pp. 1094-1097, 11/1973	
	C9	BENARD, W. L. et al., "A Titanium-Nickel Shape-Memory Alloy Actuated Micropump," Transducers '97, 1997 International Conference on Solid-State Sensors and Actuators, Chicago, Illinois, pp. 361-364, 6/16-19/1997	
	C10	BLOOMSTEIN, T. M. et al., "Laser-Chemical Three-Dimensional Writing For Microelectromechanics And Application To Standard-Cell Microfluidics," J. Vac. Sci. Technol. B, Vol. 10, No. 6, pp. 2671-2674, 11/1992	
	C11	BOUSSE, LUC et al., "Electrokinetically Controlled Microfluidic Analysis Systems," Annu. Rev. Biophys. Biomol. Struct., Vol. 29, pp. 155-181, 2000	
	C12	BRECHTEL, R. et al., "Control Of The Electroosmotic Flow By Metal-Salt-Containing Buffers," Journal of Chromatography A, Vol. 716, pp. 97-105, 1995	
	C13	BRYZEK, JANUSZ et al., "Micromachines On The March," IEEE Spectrum, Vol. 31, No. 5, pp. 20-31, 5/1994	
	C14	BUCHAILLOT, LIONEL et al., "Silicon Nitride Thin Films Young's Modulus Determination By An Optical Non Destructive Method," Jpn. J. Appl. Phys., Vol. 36, Part 2, No. 6B, pp. L794-L797, 6/15/1997	

Examiner Signature		Date Considered	
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		Art Unit	1753
		Examiner Name	Arun S. Phasge
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Sheet	5	of	11

NON PATENT LITERATURE DOCUMENTS			
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	C15	CALKINS, KATHRYN, "Mycometrix: Rubber Chips," BioCentury, 2 pages, 10/16/2000	
	C16	CHIU, DANIEL T. et al., "Patterned Deposition Of Cells And Proteins Onto Surfaces By Using Three-Dimensional Microfluidic Systems," PNAS, Vol. 97, No. 6, pp. 2408-2413, 3/14/2000	
	C17	CHOU, HOU-PU et al., "A Microfabricated Device For Sizing And Sorting DNA Molecules," Proc. Natl. Acad. Sci., Vol. 96, pp. 11-13, 1/1999	
	C18	CHOU, HOU-PU et al., "A Microfabricated Rotary Pump," Biomedical Microdevices, Vol. 3, No. 4, pp. 323-330, 2001	
	C19	CHOU, HOU-PU et al., "Integrated Elastomer Fluidic Lab-On-A-Chip-Surface Patterning And DNA Diagnostics," Proceedings of the Solid State Actuator and Sensor Workshop, Hilton Head, South Carolina, 4 pages, 2000	
	C20	CHOU, HOU-PU et al., "Multiple Disease Diagnostics On A Single Chip," Biophysics Lab, Caltech, pp. 1-4, 3/1/2000	
	C21	DELAMARCHE, EMMANUEL et al., "Patterned Delivery Of Immunoglobulins To Surfaces Using Microfluidic Networks," Science, Vol. 276, pp. 779-781, 5/2/1997	
	C22	DUFFY, DAVID C. et al., "Patterning Electroluminescent Materials With Feature Sizes As Small As 5µm Using Elastomeric Membranes As Masks For Dry Lift-Off," Advanced Materials, Vol. 11, No. 7, pp. 546-552, 1999	
	C23	DUFFY, DAVID C. et al., "Rapid Prototyping Of Microfluidic Switches In Poly(dimethyl siloxane) And Their Actuation By Electro-Osmotic Flow," J. Micromech. Microeng., Vol. 9, pp. 211-217, 1999	
	C24	DUFFY, DAVID C. et al., "Rapid Prototyping Of Microfluidic Systems In Poly(dimethylsiloxane)," Analytical Chemistry, Vol. 70, No. 23, pp. 4974-4984, 12/1/1998	
	C25	EFFENHAUSER, CARLO S. et al., "Integrated Capillary Electrophoresis On Flexible Silicone Microdevices: Analysis Of DNA Restriction Fragments And Detection Of Single DNA Molecules On Microchips," Analytical Chemistry, Vol. 69, No. 17, pp. 3451-3457, 9/1/1997	
	C26	EFFENHAUSER, CARLO S. et al., "Integrated Chip-Based Capillary Electrophoresis," Electrophoresis, Vol. 18, pp. 2203-2213, 1997	
	C27	"Electro Microfluidic Dual In-Line Package (EMDIP)," Sandia National Laboratories, 2 pages, no date	
	C28	FAHRENBERG, J. et al., "A Microvalve System Fabricated By Thermoplastic Molding," J. Micromech. Microeng., Vol. 5, pp. 169-171, 1995	
	C29	FETTINGER, J. C. et al., "Stacked Modules For Micro Flow Systems In Chemical Analysis: Concept And Studies Using An Enlarged Model," Sensors and Actuators B, Vol. 17, pp. 19-25, 1993	

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		Examiner Name	Arun S. Phasge
Sheet 6 of 11	Attorney Docket Number	20174C-002510US	

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	C30	FOLCH, A. et al., "Molding Of Deep Polydimethylsiloxane Microstructures For Microfluidics And Biological Applications," Journal of Biomechanical Engineering, Vol. 121, pp. 28-34, 2/1999	
	C31	FU, ANNE Y. et al., "A Microfabricated Fluorescence-Activated Cell-Sorter," Nature Biotechnology, Vol. 17, pp. 1109-1111, 11/1999	
	C32	GALAMBOS, PAUL et al., "Electrical And Fluidic Packaging Of Surface Micromachined Electro-Microfluidic Devices," 8 pages, no date	
	C33	GAO, JUN et al., "Integrated Microfluidic System Enabling Protein Digestion, Peptide Separation, And Protein Identification," Analytical Chemistry, Vol. 73, No. 11, pp. 2648-2655, 6/1/2001	
	C34	GASS, V. et al., "Integrated Flow-Regulated Silicon Micropump," Sensors and Actuators A, Vol. 43, pp. 335-338, 1994	
	C35	GERLACH, TORSTEN, "Pumping Gases By A Silicon Micro Pump With Dynamic Passive Valves," Transducers '97, 1997 International Conference on Solid-State Sensors and Actuators, Chicago, Illinois, pp. 357-360, 6/16-19/1997	
	C36	GOLL, C. et al., "Microvalves With Bistable Buckled Polymer Diaphragms," J. Micromech. Microeng., Vol. 6, pp. 77-79, 1996	
	C37	GRAVESEN, PETER et al., "Microfluids-A Review," J. Micromech. Microeng., Vol. 3, pp. 168-192, 1993	
	C38	GREENE, CHANA, "Characterizing The Properties Of PDMS," pp. 1-11, Summer 2000	
	C39	GUÉRIN, L. J. et al., "Simple And Low Cost Fabrication Of Embedded Micro-Channels By Using A New Thick-Film Photoplastic," Transducers '97, 1997 International Conference on Solid-State Sensors and Actuators, Chicago, Illinois, pp. 1419-1422, 6/18-19/1997	
	C40	HARRISON, D. JED et al., "Micromachining A Miniaturized Capillary Electrophoresis-Based Chemical Analysis System On A Chip," Science, Vol. 261, pp. 895-897, 8/13/1993	
	C41	HICKS, JENNIFER, "Genetics And Drug Discovery Dominate Microarray Research," R&D Magazine, pp. 28-33, 2/1999	
	C42	HOFMANN, OLIVER et al., "Modular Approach To Fabrication Of Three-Dimensional Microchannel Systems In PDMS - Application To Sheath Flow Microchips," Lab on a Chip, Vol. 1, pp. 108-114, 2001	
	C43	HORN, HOWARD, "Lab Chips Sector: Microtechnologies Are Changing Healthcare And More," Life Sciences, pp. 19-21, 3/20/2001	
	C44	HORNBECK, LARRY J. et al., "Bistable Deformable Mirror Device," Spatial Light Modulators and Applications 1988 Technical Digest Series, Summaries of papers presented at the Spatial Light Modulators and Applications Topical Meeting, Optical Society of America, Vol. 8, Postconference Edition, A215, pp. 107-110, 6/15-17/1988	

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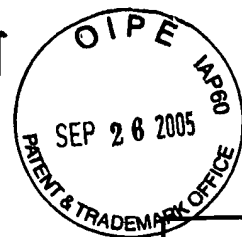
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		Art Unit	1753		
		Examiner Name	Arun S. Phasge		
Sheet	7	of	11	Attorney Docket Number	20174C-002510US

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	C45	HOSOKAWA, KAZUO et al., "Handling Of Picoliter Liquid Samples In A Poly(dimethylsiloxane)-Based Microfluidic Device," Analytical Chemistry, Vol. 71, No. 20, pp. 4781-4785, 10/15/1999	
	C46	IKUTA, KOJI et al., "Three Dimensional Micro Integrated Fluid Systems (MIFS) Fabricated By Stereo Lithography," IEEE, pp. 1-6, 1994	
	C47	JACOBSON, STEPHEN C. et al., "High-Speed Separations On A Microchip," Analytical Chemistry, Vol. 66, No. 7, pp. 1114-1118, 4/1/1994	
	C48	JACOBSON, STEPHEN C. et al., "Microfluidic Devices For Electrokinetically Driven Parallel And Serial Mixing," Analytical Chemistry, Vol. 71, No. 20, pp. 4455-4459, 10/15/1999	
	C49	JERMAN, HAL, "Electrically-Activated, Normally-Closed Diaphragm Valves," Transducers '91, 1991 International Conference on Solid-State Sensors and Actuators, pp. cover, 1045-1048, 1991	
	C50	JO, BYUNG-HO et al., "Fabrication Of Three-Dimensional Microfluidic Systems By Stacking Molded Polydimethylsiloxane (PDMS) Layers" SPIE, Vol. 3877, pp. 222-229, 9/1999	
	C51	JO, BYUNG-HO et al., "Three-Dimensional Micro-Channel Fabrication In Polydimethylsiloxane (PDMS) Elastomer," Journal of Microelectromechanical Systems, Vol. 9, No. 1, pp. 76-81, 3/2000	
	C52	JUNG, D. R. et al., "Chemical And Physical Interactions At Metal/Self-Assembled Organic Monolayer Interfaces," pp. 1-54, 1994	
	C53	KAGAN, C. R., "Organic-Inorganic Hybrid Materials As Semiconducting Channels In Thin-Film Field-Effect Transistors," Science, Vol. 286, pp. 945-947, 10/29/1999	
	C54	KAPUR, RAVI et al., "Fabrication And Selective Surface Modification Of 3-Dimensionally Textured Biomedical Polymers From Etched Silicon Substrates," Journal of Biomedical Materials Research, Vol. 33, pp. 205-216, 1996	
	C55	KENIS, PAUL J. A. et al., "Microfabrication Inside Capillaries Using Multiphase Laminar Flow Patterning," Science, Vol. 285, pp. 83-85, 7/2/1999	
	C56	KHOO, MELVIN et al., "A Novel Micromachined Magnetic Membrane Microfluid Pump," pp. 1-4, no date	
	C57	KIM, ENOCH et al., "Micromolding In Capillaries: Applications In Materials Science," J. Am. Chem. Soc., Vol. 118, No. 24, pp. 5722-5731, 1996	
	C58	KIM, ENOCH et al., "Polymer Microstructures Formed By Moulding In Capillaries," Nature, Vol. 376, pp. 581-584, 8/17/1995	
	C59	KIRK-OTHMER, "Concise Encyclopedia of Chemical Technology," John Wiley & Sons, 5 pages, no date	
	C60	KNIGHT, JAMES et al. "Hydrodynamic Focusing on a Silicon Chip: Mixing Nanoliters in Microseconds" Am. Phys. Soc., 27 April 1998, pp. 3863-3866, Vol. 80, No. 17.	

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	C61	KOPP, MARTIN U. et al., "Chemical Amplification: Continuous-Flow PCR On A Chip," Science, Vol. 280, pp. 1046-1048, 5/15/1998	
	C62	KUHN, LAWRENCE et al., "Silicon Charge Electrode Array For Ink Jet Printing," IEEE Transactions on Electron Devices, Vol. ED-25, No. 10, pp. 1257-1260, 10/1978	
	C63	KUMAR, AMIT et al., "Features Of Gold Having Micrometer To Centimeter Dimensions Can Be Formed Through A Combination Of Stamping With An Elastomeric Stamp And An Alkanethiol 'Ink' Followed By Chemical Etching," Appl. Phys. Lett., Vol. 63, No. 14, pp. 2002-2004, 10/4/1993	
	C64	KUMAR, AMIT et al., "Patterning Self-Assembled Monolayers: Applications In Materials Science," Langmuir, Vol. 10, pp. 1498-1511, 1994	
	C65	LAGALLY, ERIC T. et al., "Monolithic Integrated Microfluidic DNA Amplification And Capillary Electrophoresis Analysis System," Sensors and Actuators B, Vol. 63, pp. 138-146, 2000	
	C66	LAGALLY, E. T. et al., "Single-Molecule DNA Amplification And Analysis In An Integrated Microfluidic Device," Analytical Chemistry, Vol. 73, No. 3, pp. 565-570, 2/1/2001	
	C67	LAMMERINK, T. S. J. et al., "Modular Concept For Fluid Handling Systems," IEEE, pp. 389-394, 1996	
	C68	LI, PAUL C. H. et al., "Transport, Manipulation, And Reaction Of Biological Cells On-Chip Using Electrokinetic Effects," Analytical Chemistry, Vol. 69, No. 8, pp. 1564-1568, 4/15/1997	
	C69	LICKLIDER, LARRY et al., "A Micromachined Chip-Based Electrospray Source For Mass Spectrometry," Analytical Chemistry, Vol. 72, No. 2, pp. 367-375, 1/15/2000	
	C70	LIN, L. Y. et al., "Free-Space Micromachined Optical Switches For Optical Networking," IEEE Journal of Selected Topics in Quantum Electronics, Vol. 5, No. 1, pp. 4-9, 1/1999	
	C71	LÖTTERS, J C et al., "The Mechanical Properties Of The Rubber Elastic Polymer Polydimethylsiloxane For Sensor Applications," J. Micromech. Microeng., Vol. 7, pp. 145-147, 1997	
	C72	LUCY, CHARLES A. et al., "Characterization Of The Cationic Surfactant Induced Reversal Of Electroosmotic Flow In Capillary Electrophoresis," Anal. Chem., Vol. 68, pp. 300-305, 1996	
	C73	MALUF, N., "An Introduction To Microelectromechanical Systems Engineering," Artech House Publishers, Boston London, pp. 42-45, 12/1999	
	C74	MANZ, A. et al., "Micromachining Of Monocrystalline Silicon And Glass For Chemical Analysis Systems," Trends in Analytical Chemistry, Vol. 10, No. 5, pp. 144-149, 1991	
	C75	MARSHALL, SID, "Fundamental Changes Ahead For Lab Instrumentation," R&D Magazine, 5 pages, 2/1999	
	C76	MARSILI, RAY, "Lab-On-A-Chip Poised To Revolutionize Sample Prep," R&D Magazine, 5 pages, 2/1999	

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	C77	MCDONALD, J. COOPER et al., "Fabrication Of Microfluidic Systems In Poly(dimethylsiloxane)," Electrophoresis, Vol. 21, pp. 27-40, 2000	
	C78	MULLER, RICHARD S. et al., "Surface-Micromachined Microoptical Elements And Systems," Proceedings of the IEEE, Vol. 86, No. 8, pp. 1705-1720, 8/1998	
	C79	OLESCHUK, RICHARD D. et al., "Analytical Microdevices For Mass Spectrometry," Trends In Analytical Chemistry, Vol. 19, No. 6., pp. 379-388, 2000	
	C80	OLSSON, ANDERS et al., "Simulation Studies Of Diffuser And Nozzle Elements For Valve-Less Micropumps," Transducers '97, 1997 International Conference on Solid-State Sensors and Actuators, Chicago, Illinois, pp. 1039-1042, 6/16-19/1997	
	C81	PETHIG, RONALD et al., "Applications Of Dielectrophoresis In Biotechnology," Tibtech, Vol. 15, pp. 426-432, 10/1997	
	C82	QIN, DONG et al., "Elastomeric Light Valves," Adv. Mater., Vol. 9, No. 5, pp. 407-410, 1997	
	C83	QIN, DONG et al., "Photolithography With Transparent Reflective Photomasks," J. Vac. Sci. Technol. B, Vol. 16, No. 1, pp. 98-103, 1/1998	
	C84	QUAKE, STEPHEN R. et al., "From Micro- To Nanofabrication With Soft Materials," Science, Vol. 290, pp. 1536-1540, 11/24/2000	
	C85	RAPP, R. et al., "LIGA Micropump For Gases And Liquids," Sensors and Actuators A, Vol. 40, pp. 57-61, 1/1994	
	C86	ROYLANCE, LYNN MICHELLE et al., "A Batch-Fabricated Silicon Accelerometer," IEEE Transactions on Electron Devices, Vol. ED-26, No. 12, pp. 1911-1917, 12/1979	
	C87	SANJOH, AKIRA et al., "Spatiotemporal Protein Crystal Growth Studies Using Microfluidic Silicon Devices," Journal of Crystal Growth, Vol. 196, pp. 691-702, 1999	
	C88	SCHASFOORT, RICHARD B. M. et al., "Field-Effect Flow Control For Microfabricated Fluidic Networks," Science, Vol. 286, pp. 942-945, 10/29/1999	
	C89	SCHUELLER, OLIVIER J. A. et al., "Fabrication Of Glassy Carbon Microstructures By Soft Lithography," Sensors and Actuators A, Vol. 72, pp. 126-139, 1999	
	C90	SHOJI, SHUICHI, "Fluids For Sensor Systems," Topics in Current Chemistry, Vol. 194, pp. 167-188, 1998	
	C91	SHOJI, SHUICHI et al., "Smallest Dead Volume Microvalves For Integrated Chemical Analyzing Systems," Transducers '91, 1991 International Conference on Solid-State Sensors and Actuators, San Francisco, California, pp. cover, 1052-1055, 1991	
	C92	SMITS, J.G., "Piezoelectric Micropump With Three Valves Working Peristaltically," Sensors and Actuators, Vol. A21-A23, pp. 203-206, 1990	

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	C93	SOHN, L. L. et al., "Capacitance Cytometry: Measuring Biological Cells One By One," PNAS, Vol. 97, No. 20, pp. 10687-10690, 9/26/2000	
	C94	THOMPSON, L. F. et al., "Introduction To Microlithography," 185th Meeting of the American Chemical Society, Seattle, WA, pp. 2 cover pages, 1-13, 3/20-25/1983	
	C95	THORSEN, TODD et al., "Dynamic Pattern Formation In A Vesicle-Generating Microfluidic Device," Physical Review Letters, Vol. 86, No. 18, pp. 4163-4166, 4/30/2001	
	C96	TUFTE, O. N. et al., "Silicon Diffused-Element Piezoresistive Diaphragms," Journal of Applied Physics, Vol. 33, No. 11, pp. 3322-3327, 11/1962	
	C97	Ullmann's Encyclopedia of Industrial Chemistry, Sections 6 to 6.3, Topic: Carbon Black, Sixth Edition, 7 pages, 1999	
	C98	UNGER, MARC A. et al., "Monolithic Microfabricated Valves And Pumps By Multilayer Soft Lithography," Science, Vol. 288, pp. 113-116, 4/7/2000	
	C99	VAN DEN BERG, A. et al., "Micro Total Analysis Systems," Proceedings of the μ TAS '94 Workshop, University of Twente, The Netherlands, 17 pages, 11/21-22/1994	
	C100	VAN DE POL, F.C.M. et al., "A Thermo-Pneumatic Actuation Principle For A Microminiature Pump And Other Micromechanical Devices," Sensors and Actuators, Vol. 17, Nos. 1-2, pp. 139-143, 5/3/1989	
	C101	VAN DE POL, F.C.M. et al., "Micro Liquid Handling Devices - A Review," Micro Systems Technologies, Vol. 90, pp. 799-805, 1990	
	C102	VERPOORTE, ELISABETH M. J. et al., "Three-Dimensional Micro Flow Manifolds For Miniaturized Chemical Analysis Systems," J. Micromech. Microeng., Vol. 7, pp. 246-256, 1994	
	C103	VIEIDER, CHRISTIAN et al., "A Pneumatically Actuated Micro Valve With A Silicon Rubber Membrane For Integration With Fluid Handling Systems," Transducers '95, 8th International Conference on Solid-State Sensors and Actuators and Eurosensors IX, Stockholm, Sweden, pp. 284-286, 6/25-29/1995	
	C104	WASHIZU, MASAO et al., "Molecular Dielectrophoresis Of Biopolymers," IEEE Transactions on Industry Applications, Vol. 30, No. 4, pp. 835-843, 7/1994	
	C105	WHITESIDES, GEORGE M. et al., "Flexible Methods For Microfluidics," Physics Today, pp. 42-48, 6/2001	
	C106	WHITESIDES, GEORGE M. et al., "Soft Lithography In Biology And Biochemistry," Annu. Rev. Biomed. Eng., Vol. 3, pp. 335-373, 2001	
	C107	WILBUR, JAMES L. et al., "Lithographic Molding: A Convenient Route To Structures With Sub-Micrometer Dimensions," Adv. Mater., Vol. 7, No. 7, pp. 649-652, 1995	
	C108	XIA, YOUNAN et al., "Complex Optical Surfaces Formed By Replica Molding Against Elastomeric Masters," Science, Vol. 273, pp. 347-349, 7/19/1996	

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	C110	XIA, YOUNAN et al., "Reduction In The Size Of Features Of Patterned SAMs Generated By Microcontact Printing With Mechanical Compression Of The Stamp," Adv. Mater., Vol. 7, No. 5, pp. 471-473, 1995	
	C111	XIA, YOUNAN et al., "Soft Lithography," Angew. Chem. Int. Ed., Vol. 37, pp. 551-575, 1998	
	C112	XU, BING et al., "Making Negative Poisson's Ratio Microstructures By Soft Lithography," Adv. Mater., Vol. 11, No. 14, pp. 1186-1189, 1999	
	C113	YANG, XING et al., "A Lower Power MEMS Silicone/Parylene Valve," Solid-State Sensor and Actuator Workshop, Hilton Head Island, South Carolina, 4 pages, 6/7-11/1998	
	C114	YANG, XING et al., "A MEMS Thermopneumatic Silicone Membrane Valve," IEEE 10th Annual International Workshop of Micro Electro Mechanical Systems, Nagoya, Japan, pp. cover, 114-118, 1/26-30/1997	
	C115	YAZDI, NAVID et al., "Micromachined Inertial Sensors," Proceedings of IEEE, Vol. 86, No. 8, pp. 1640-1659, 8/1998	
	C116	ZENGERLE, R. et al., "A Micro Membrane Pump With Electrostatic Actuation," Micro Electro Mechanical Systems '92, Travemünde, Germany, pp. 19-24, 2/4-7/1992	
	C117	ZENGERLE, R. et al., "Performance Simulation Of Microminiaturized Membrane Pumps," 7th International Conference on Solid-State Sensors and Actuators, Yokohama, Japan, pp. 2 cover pages, 106-109, 6/7-10/1993	

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